



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,001	02/20/2004	James J. Baker	84,076	5321

7590 01/12/2006

Office of Counsel Code OC4
Naval Surface Warfare Center
Indian Head Division
101 Strauss Ave., Bldg. D-31
Indian Head, MD 20640-5035

EXAMINER

GELLNER, JEFFREY L

ART UNIT PAPER NUMBER

3643

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,001

Applicant(s)

BAKER ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20 Feb. 2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION***Election/Restrictions***

Applicant's election without traverse of Invention I - an energetic composition, claims 1-13 - and Species A in the reply filed on 28 October 2005 is acknowledged. Applicant traverses the election of species requirement and argues that the three species are not separate species. Examiner considers an inert composition to be patentably distinct from a high or low energy material. The prior can not be used as a rocket fuel or explosive. High or low energy material are patentably distinct because they possess different characteristics that govern their abilities to be effective rocket fuels or explosives. The restriction and election of species requirements are deemed proper and made final. Claims 14-20 are withdrawn from examination because they are drawn to the non-elected invention and/or species.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Desilets et al. (US 2004/0040637 A1).

As to claims 1-3, Desilets et al. disclose an energetic composition (abstract) comprising a high energy material, HMX or RDX (para. 0009) and one or more nanotubular structures comprising the high energy material (para. 0007-0009).

As to claims 5, Desilets et al. disclose a plurality of nanotubes (para. 0007).

Art Unit: 3643

As to claims 7 and 8, Desilets et al. disclose the nanotubes being inert (from “carbon nanotube” of para. 0007).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Desilets et al. (US 2004/0040637 A1) in view of Becuwe (US 5,034,072).

As to claim 4, the limitations of claim 1 are disclosed as described above. Not disclosed is the composition further comprising a melt temperature lowering component. Becuwe, however, discloses a composition with HMX or RDX that contains a temperature lowering component (“oxynitrotriazole” of col. 3, lines 32-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Desilets et al. by adding a temperature lowering component so as to lower the flame temperature so as to reduce erosion of surrounding structures (see Becuwe at col. 3, lines 32-37).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Desilets et al. (US 2004/0040637 A1).

Art Unit: 3643

As to claim 6, the limitations of claim 1 are disclosed as described above. Not disclosed is the composition with nanotubes being a diameter of from 300 to 1000 micrometers. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Desilets et al. by using the nanotubes with a diameter of from 300 to 1000 micrometers so as to effective pyrotechnic effect (see para. 0017 for uses).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desilets et al. (US 2004/0040637 A1) in view of Nix et al. (US 3,389,025).

As to claims 9 and 10, the limitations of claim 1 are disclosed as described above. Not disclosed are the nanotube structures being substantially longitudinally aligned. Nix et al., however, discloses a exothermic composition with alignment of internal structures (col. 1, lines 53-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Desilets et al. by having the nanotube structures aligned along a direction of increased burn rate so as to achieve optimum or desired burn characteristics.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desilets et al. (US 2004/0040637 A1) in view of Levinthal (US 4,086,110).

As to claims 11-13, the limitations of claim 1 are disclosed as described above. Not disclosed is the composition as a solid propellant for a rocket motor system. Levinthal, however, discloses the use of an HMX, gas generant composition as a solid propellant for a rocket motor system (col. 2, lines 15-19) which would modify the burn rate (from "high energy oxidizer" of col. 2, lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of

Art Unit: 3643

the invention to modify the composition of Desilets et al. by using the composition as a propellant in a rocket motor system which would be a burn rate modifier as disclosed by Levinthal so as to increase use of the composition.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pierce disclose in the prior art a propellant with internal alignment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey L. Gellner
Primary Examiner
Art Unit 3643